

AMENDMENT

Please amend the claims as follows. Deleted matter is indicated with strikethroughs and new text is indicated with underlined text. These claims supersede all previous versions. No new matter is added by any of the changes.

CLAIM LISTING:

1. (Currently Amended) A method for transmultiplexing a data stream carried on a synchronous network so that the data stream can be carried on a plesiochronous network, comprising:
 - extracting data from a data stream carried on a synchronous network and formatted according to a synchronous network protocol;
 - storing the extracted data in a buffer based on a first timing signal associated with the data stream;
 - reading the extracted data from the buffer based on a second timing signal associated with a plesiochronous network protocol;
 - generating a phase difference signal corresponding to a phase difference between the first timing signal and the second timing signal;
 - filtering the phase difference signal in a synchronous domain; and
 - generating stuff bits for a data stream according to the plesiochronous network protocol based on at least a piece-wise linear function of a phase difference between the first timing signal and the second timing signal; and
 - transmitting the data stream according to the plesiochronous network onto a plesiochronous network.
- 2-4. (Canceled)
5. (Previously presented) The method of claim 1 further comprising formatting the extracted data and the stuff bits as a data stream according to the plesiochronous network protocol.

6. (Previously presented) The method of claim 5 wherein the data stream according to the plesiochronous network protocol comprises a DS1 data stream.

7. (Canceled)

8. (Previously presented) The method of claim 1 wherein the synchronous network protocol comprises a synchronous optical network (SONET) protocol.

9. (Original) The method of claim 1 wherein the data stream formatted according to the first network protocol comprises a VT1.5 formatted data stream

10. (Previously presented) The method of claim 9 wherein the first timing signal comprises a clock signal for the VT1.5 formatted data stream.

11. (Original) The method of claim 1 wherein the first timing signal and the second timing signal have approximately the same average frequency.

12. (Original) The method of claim 1 wherein the buffer comprises a first-in/first-out (FIFO) queue.

13. (Previously presented) An apparatus comprising:

a buffer to store data extracted from a data stream formatted according to a synchronous network protocol, wherein the extracted data is stored in the buffer in response to a first timing signal associated with the data stream and the extracted data is read from the buffer in response to a second timing signal associated with a plesiochronous network protocol;

a phase detector coupled to receive the first timing signal and the second timing signal to determine a phase difference between the first timing signal and the second timing signal and to generate a phase difference signal;

a filter coupled to sample the phase difference signal in response to the first timing signal and to generate a phase metric signal based on the sampled phase difference signal and to filter the phase metric signal in a synchronous domain; and

a stuff rate generator coupled to receive the filtered phase metric signal to generate a stuff rate signal based on the filtered phase metric signal, wherein a relationship between the filtered phase metric signal and the stuff rate signal is piece-wise linear.

14. (Original) The apparatus of claim 13 wherein the phase metric comprises an average number of data values stored in the buffer.

15. (Previously Presented) The apparatus of claim 13 wherein the synchronous network protocol comprises a synchronous optical network (SONET) protocol.

16. (Previously Presented) The apparatus of claim 15 wherein the data stream formatted according to the synchronous network protocol comprises a VT1.5 formatted data stream.

17. (Canceled)

18. (Previously Presented) The apparatus of claim 13 wherein the extracted data is formatted according to the plesiochronous network protocol and comprises a DS1 data stream.

19. (Original) The apparatus of claim 13 wherein the first timing signal and the second timing signal have approximately the same average frequency.

20. (Previously Presented) A system comprising:
a switch fabric;

a buffer to store data extracted from a data stream formatted according to a synchronous network protocol, wherein the extracted data is stored in the buffer in response to a first timing signal associated with the data stream and the extracted data is read from the buffer in response to a second timing signal associated with a plesiochronous network protocol;

a phase detector coupled to receive the first timing signal and the second timing signal to determine a phase difference between the first timing signal and the second timing signal and to generate a phase difference signal;

a filter coupled to sample the phase difference signal in response to the first timing signal and to generate a phase metric signal based on the phase difference signal and to filter the phase metric signal in a synchronous domain; and

a stuff rate generator coupled to receive the filtered phase metric signal to generate a stuff rate signal based on the filtered phase metric signal, wherein a relationship between the filtered phase metric signal and the stuff rate signal is piece-wise linear.

21. (Original) The system of claim 20 wherein the phase metric comprises an average number of data values stored in the buffer.

22. (Previously presented) The system of claim 20 wherein the data stream formatted according to the synchronous network protocol comprises a VT1.5 formatted data stream.

23. (Previously Presented) The system of claim 20 wherein the extracted data is formatted according to the plesiochronous network protocol and comprises a DS1 data stream.

24. (Previously Presented) An apparatus comprising:
means for extracting data from a data stream formatted according to a synchronous network protocol;

means for storing the extracted data in a buffer based on a first timing signal associated with the data stream;

means for reading the extracted data from the buffer based on a second timing signal associated with a plesiochronous network protocol;

means for generating a phase difference signal corresponding to a phase difference between the first timing signal and the second timing signal;

means for filtering the phase difference signal in a synchronous domain; and
means for generating stuff bits for a data stream according to the plesiochronous network protocol based on at least a piece-wise linear function of a phase difference between the first timing signal and the second timing signal.

25. (Canceled)

26. (Previously presented) The apparatus of claim 24 further comprising
means for formatting the extracted data and the stuff bits as a data stream according to the plesiochronous network protocol.